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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION N
10/686,198	10/15/2003	Eric J. Horvitz	MS158283.2 / MSFTP293USA	5905
27195	7590	11/01/2004	EXAMINER	
AMIN & TUROCY, LLP 24TH FLOOR, NATIONAL CITY CENTER 1900 EAST NINTH STREET CLEVELAND, OH 44114			HARRIS, CHANDA L	
			ART UNIT	PAPER NUMBER
			3714	

DATE MAILED: 11/01/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

<b>Office Action Summary</b>	<b>Application No.</b> 10/686,198	<b>Applicant(s)</b> HORVITZ ET AL.	
	<b>Examiner</b> Chanda L. Harris	<b>Art Unit</b> 3714	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) ☒ Responsive to communication(s) filed on 13 July 2004.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) ☒ Claim(s) 25-59 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 25-59 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- |   |   |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892)   | 4) <input type="checkbox"/> Interview Summary (PTO-413)<br>Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948)  | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152)             |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)<br>Paper No(s)/Mail Date <u>6/1/04</u> . | 6) <input type="checkbox"/> Other: _____  |

## **DETAILED ACTION**

### ***Status of Claims***

In response to the amendment filed 7/13/04, Claims 1-24 cancelled. Claims 25-59 are pending.

### ***Information Disclosure Statement***

The information disclosure statement filed 6/1/04 fails to comply with 37 CFR 1.98(a)(2), which requires a legible copy of each U.S. and foreign patent; each publication or that portion which caused it to be listed; and all other information or that portion which caused it to be listed. It has been placed in the application file, but the information referred to therein has not been considered. This pertains particularly to the uninitiated, marked through on the information disclosure statement.

### ***Claim Objections***

Claim 45 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form and pay the necessary fees. The browser in claim 45 fails to further limit the system of claim 25.

***Specification***

The disclosure is objected to because of the following informalities: The status of the parent application on p.1 of the specification.

Appropriate correction is required.

***Claim Rejections - 35 USC § 101***

35 U.S.C. 101 reads as follows:

Whoever invents or discovers any new and useful process, machine, manufacture, or composition of matter, or any new and useful improvement thereof, may obtain a patent therefor, subject to the conditions and requirements of this title.

Claims 25-47 are rejected because no useful, concrete and tangible result is produced.

Claims 25-47 appear to be directed to a computer program as no structure consistent with a 'system' is recited. Claims to computer programs (i.e., collaborative filtering system) per se are not statutory subject matter. A claim to a computer-readable medium encoded with a computer program is a computer element which defines structural and functional interrelationships between the computer program and the rest of the computer which permit the computer program's functionality to be realized, and is thus statutory.

***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

**Claims 25-26, 28, 30-34, 36-40, 44-55, and 57-59 are rejected under 35**

**U.S.C. 102(b) as being anticipated by Robinson (US 5,884,282).**

1. [Claims 25,48,58]: Regarding Claims 25,48, and 58, Robinson discloses a personality type generator that analyzes/compares known attributes relating to a user and calculates probabilities (i.e., similarity values) that the user has a personality type substantially similar to personality types of a plurality of disparate users (i.e., other users), wherein the personality types of the plurality of disparate users are based at least in part upon attributes (i.e., preferences) related to such users. See Col.2: 1-26, 42-50. Robinson discloses an attribute value predictor that predicts unknown attributes (i.e., ratings)/generates new attributes relating to the user based at least in part upon the calculated probabilities. See Col.2: 47-50. Robinson discloses the attributes relate to items accessible via a browser (i.e., website). See Col.4: 47-50. Robinson discloses means for collecting attributes relating to an entity (i.e., database). See Col.6: 37-40.
2. [Claims 26,59]: Regarding Claims 26 and 59, Robinson discloses a recommendation facility that provides recommendations to the user based at least in part upon the predicted/new attributes. See Col.2: 54-57.
3. [Claim 28]: Regarding Claim 28, Robinson discloses a query facility that requests an attribute (i.e., rating) from the user. See Col.6: 37-40.

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4. [Claim 30]: Regarding Claim 30, Robinson discloses the query facility employs expected value of information (i.e., similarity value) in connection with requesting the attribute from the user. See Col.6: 37-40.
5. [Claims 31,51]: Regarding Claims 31 and 51, Robinson discloses attributes are selectively requested from the user based upon one or more discriminatory value of information (i.e., items) relating to the user and a consideration of a likelihood that the user is familiar with items being asked about given current uncertainty about the user. See Col.2: 42-48.
6. [Claims 32,52]: Regarding Claims 32 and 52, Robinson discloses attributes are selectively requested from the user based upon a discriminatory value of the information, including an analysis of a consideration of a likelihood of different answers to a query given current uncertainty about the user. See Col.8: 36-67.
7. [Claim 33]: Regarding Claim 33, Robinson discloses the personality types of the plurality of disparate users generated using at least known attributes (i.e., ratings) relating to each of the plurality of disparate users. See Col.2: 34-39.
8. [Claim 34]: Regarding Claim 34, Robinson discloses the known attributes relating to the plurality of disparate users is accessible from a data table (i.e., database). See Col.6: 37-40.
9. [Claim 36]: Regarding Claim 36, Robinson discloses the known attributes relating to the user associated with a calculated variability (i.e., similarity value). See Col.2: 31-34.

10. [Claim 37]: Regarding Claim 37, Robinson discloses the variability is Gaussian (i.e., binomial distribution). See Col.6: 48-50.
11. [Claims 38,55]: Regarding Claims 38 and 55, Robinson discloses the personality types are at least partially defined by vectors (i.e.,  $S=\{ \dots \}$ ), the vectors include attributes relating to the plurality of disparate users and calculating a plurality of probabilities that the user has a personality type substantially similar to a plurality to a plurality of disparate users based at least in part upon the collected attributes and attributes related to the disparate users. See Col.8: 58.
12. [Claim 39]: Regarding Claim 39, Robinson discloses the probabilities that the user has a personality type substantially similar to personality types of the plurality of disparate users are calculated at least partially by a frequency that the plurality of disparate users rate items according to the vectors. See Col.18: 12-24.
13. [Claim 40]: Regarding Claim 40, Robinson discloses a number of occurrences the disparate users rate items according to the vectors are explicitly counted (i.e., the number of movies they've both seen). See Col.18: 3.
14. [Claims 44,57]: Regarding Claims 44 and 57, Robinson discloses the personality generator employs a Bayesian Network to calculate the probabilities that the user has a personality type substantially similar to personality types of the plurality of disparate users and employing a Bayesian network in connection with recommending the item to the user. See Col.8: 55-67 and Col.14: 53-Col.15: 20.
15. [Claim 45]: Regarding Claim 45, Robinson discloses a browser (i.e., website). See Col.4: 47-48.

16. [Claim 46]: Regarding Claim 46, Robinson discloses residing on a server (e.g., Firewall Server). See Col.4: 37-40.
17. [Claim 47]: Regarding Claim 47, Robinson discloses accessed over a network (e.g., public network). See Col.4: 7-17.
18. [Claim 49]: Regarding Claim 49, Robinson discloses selectively requesting attributes from the user based upon a value of obtaining the information (e.g., similarity value). See Col.6: 37-40.
19. [Claim 50]: Regarding Claim 50, Robinson discloses selectively requesting attributes from the user based upon a use of expected value of information (e.g., recommendation). See Col.2: 54-57.
20. [Claim 53]: Regarding Claim 53, Robinson discloses one or more of the attributes being ratings relating to items. See Col.6: 37-40.
21. [Claim 54]: Regarding Claim 54, Robinson discloses the items being one or more of video content, textual content, audio content, image content, multi-media content, a service, a consumer good, a business good, clothing, and a financial instrument. See Col.8: 36-44.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.



**Claims 35 and 56 are rejected under 35 U.S.C. 103(a) as being unpatentable over Robinson in view of Knight et al. (US 6,571,234).**

[Claims 35, 56]: Regarding Claims 35 and 56, Robinson does not disclose expressly a pruning facility, the pruning facility employed to reduce a number of known attributes to consider when generating the personality types of a plurality of users or selectively reducing a number of attributes to consider. However, Knight teaches the concept of pruning to reduce a number of known attributes (i.e., unpopular categories of data) to consider when generating the personality types of a plurality of users (i.e., interests of its users) and thereby selectively reducing a number of attributes. See Col.25: 29-38. Therefore, at the time of the invention, it would have been obvious to one of ordinary skill in the art to incorporate the aforementioned limitations into the method and system of Robinson, in light of the teaching of Knight, in order to reduce clutter.

***Citation of Pertinent Prior Art***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- Netz (US 6,366,905)
  - benefit/cost ratio
- Adya et al. (US 6,266,658)
  - cost-based pruning

***Response to Arguments***

Applicant's arguments have been considered but are moot in view of the new ground(s) of rejection. See rejection above. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Chanda L. Harris whose telephone number is 703-308-8358. The examiner can normally be reached on M-F 6:30am-4:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Derris Banks can be reached on 703-308-1745. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Chanda L. Harris  
Examiner  
Art Unit 3714

ch.